**Components:** These are the components needed for the print-and-play game. This PDF has figures in a different order than the book to take advantage of the larger page size. It is suggested you leave the Figure references attached until you sort out everything, and only cut them away right before final preparation of the game. If you print the last 2 pages (17-18) – Figures 10.21 and 10.22 - front-to-back, it will save you a step in the assembly process.

Figure 10.2
Mobius Library,
Opening Missive

UNE
The University of
Northern England.

We believe that key information we need is being kept under fingerprint sensor in the Mobius Library. We have procured the attached fingerprints and fingerprint attachment kit, but we **don't know which fingerprint to use, and need to know the age and location of most Mobius employees.**

Enter the library on March 28 while the librarian is on lunch break. You will have about an hour to get in, learn what you can, and get out. We have a security guard who will keep watch, and might be able to help if you need something.

We will be monitoring your progress via a camera you are wearing and will send you messages like this one as you discover interesting information.

Figure 10.4
Mobius Library,
Self-check
fingerprint scanner

Scan for Entry

If the digits on the code add to 27, you may open this.
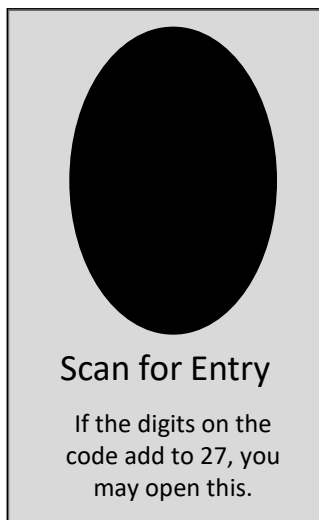
Figure 10.5
Mobius Library,
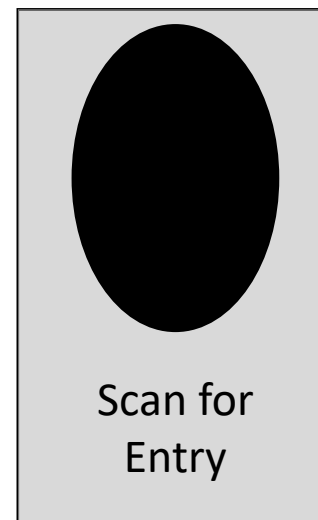*Facilitated and*
padlocks
fingerprint
scanner

Scan for Entry

Figure 10. 3 Mobius Library, Fingerprint Sheet

Finger	Left Pinky	Left Ring	Left Middle	Left Fore	Right Fore	Right Middle	Right Ring	Right Pinky
NYC 18-25	2834	9538	8824	7391	6109	5501	4054	3903
NYC 26-39	1721	1098	9098	8560	7447	6043	3101	2287
NYC 40-62	3926	2064	1385	9832	8927	7827	2897	1799
London 18-25	4149	3077	2543	1742	9764	8454	1865	0273
London 26-39	5003	4092	3467	2199	1108	9002	5522	9462
London 40-62	8685	5019	4183	3756	2312	0457	6391	6938
Sing. 18-25	7293	6603	5058	4009	3760	1067	7010	7341
Sing. 26-39	8229	7453	6276	5098	4002	2842	8343	6023
Sing. 40-62	9086	8392	7653	6367	5973	3457	9434	5023

Figure 10.6
Library Challenge 1a
Spot the Bots missive
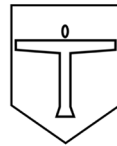
UNE
The University of Northern England.

We have learned that Mobius has created three chat programs known as bots to send messages on the social media platform Handbook to raise panic with false stories about fingerprint theft.
Here are the aspects to look for to spot the bots:

1: Bots have automatically generated names, so most have a number as part of their user name or a set of words put together that don't make much sense.
2: Bots copy their profile pictures from other profiles, so look for duplicated icons. They may also take profile text from other profiles, so look for copied phrases.
3: Bots may re-post content and follow many people, but may not have many other followers.

Once you have identified the three bots, see if you can find where they are coming from.

Figure 10.11
Library Challenge 1b
Fake news missive
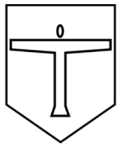
UNE
The University of Northern England.

Mobius has been spreading fake web sites that look like a real newspaper. Examine each of these printouts from newspaper web sites to determine which is real and which is fake, and compare them to figure out what Mobius has been trying to do and what finger is important. Start by analyzing the URL of the web sites to determine if the web site is real or fake.

Figure 10.9 Library Challenge 1b, user map

HandBook   User Maps

New York City — Bronx, Queens, Brooklyn

London — Hampstead, Newham, Brixton

Singapore — Rochor, Changi
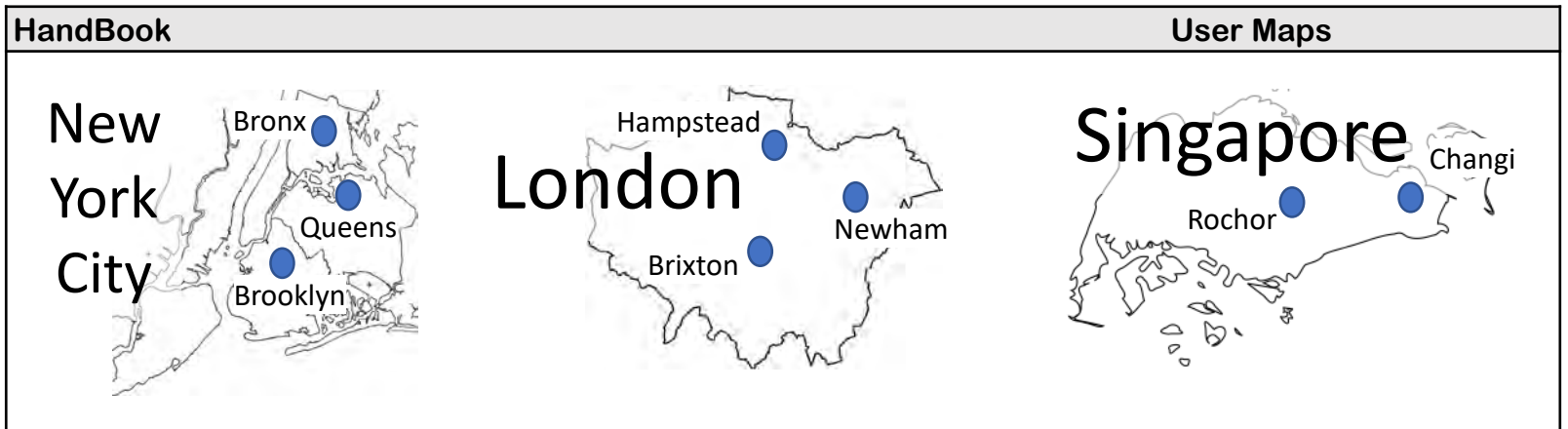
Figure 10.7 Library Challenge 1a, user roster (1 of 2)

HandBook				User Roster			
Name	Icon	Hometown	About me	Posts	Re-Posts	Following	Followers
Robert27		Queens	48, married, two kids, sell insurance, watches sports on weekends. Go Dodgers!	3	4	83	4
RobotsRCool		Changi	E-sports enthusiast and K-pop fan. Love robot battles!	12	24	112	74
Gh0sty117Red		Brooklyn	Unemployed actress, unemployed waitress, unemployed everything. Looking for any work near Brooklyn.	53	12	35	28
Karen982		Brixton	Single, 29, hot, looking for lonely men.	3	83	71	21

Figure 10.8 Library Challenge 1a, user roster (2 of 2)
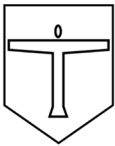
HandBook					User Roster		
Name	Icon	Hometown	About me	Posts	Re-Posts	Following	Followers
Smithore2012		Bronx	Whatever, nobody reads this anyway.	1	0	12	1
Brow4Coffee7		Hampstead	I enjoy the Internet and reading the many fine posts from Handbook. Please message me!	2	28	52	3
AileeRoberts		Rochor	Single, 29, looking for someone to share chili crab with. Tired of living alone.	42	3	112	53
Keiter119		Newham	Unemployed actress, two kids, sells insurance. Loves robot battles!	4	38	173	10

Figure 10.15
Library Challenge 1c
Data missive

UNE
The University of
Northern England.

We suspect that this data about Mobius employees is being presented in a misleading fashion for a recruitment effort targeting young workers. Study these graphs carefully and fill out this table with the real numbers that are on the charts. Use that information to determine the age range of most employees at Mobius.

Figure 10.10 Library Challenge 1a, discussion forum

HandBook			Discussion Forum
👪	AileeRoberts	March 3, 2021, 18:42	Hey, is anyone free tonight near Singapore? I'd love to go out and get something to eat and talk.
⊚	Robert27	March 3, 2021, 19:23	➥Would love to, but am a little far away. LOL.
฿	Gh0sty117Red	March 4, 2021, 9:30	Up early again. No work yet, but can't sleep in. Can't put my finger on why.
𝔰	Keiter119	March 4, 2021, 9:31	➥Speaking of fingers, did you see this story about people faking fingerprints?
฿	Gh0sty117Red	March 4, 2021, 9:43	➥That is scary stuff! How do I get my fingerprint off my phone?
✖	Karen982	March 4, 2021, 9:41	➥There's a service from Mobius where you can buy a fake fingertip kit. I use it. It's great! #safetyfirst ⤴ Robert27,Keiter119 Re-posted this
฿	Gh0sty117Red	March 4, 2021, 9:51	➥Thanks, I will check that out!
ෆ	RobotsRCool	March 4, 2021, 11:51	Did anyone see last night's Robot Wars? It was awesome! Parts were flying everywhere! ⤴ Karen982 Re-posted this
ෆ	Brow4Coffee7	March 4, 2021, 11:52	➥LOL. Please message me!
𝔰	Keiter119	March 4, 2021, 1:31	Speaking of fingers, did you see this story about people faking fingerprints? ⤴ Karen982 Re-posted this
✖	Karen982	March 4, 2021, 1:31	➥There's a service from Mobius where you can buy a fake fingertip kit. I use it. It's great! #safetyfirst
ෆ	Brow4Coffee7	March 4, 2021, 11:52	➥LOL. Please message me!
𝕿ℨ	Smithore2012	March 4, 2021, 12:43	Man, did anyone see that story about the fake fingerprints that is going around the Internet? Scary stuff!
𝔰	Keiter119	March 4, 2021, 1:31	Speaking of fingers, did you see this story about people faking fingerprints? ⤴ Karen982 Re-posted this
✖	Karen982	March 4, 2021, 1:31	➥There's a service from Mobius where you can buy a fake fingertip kit. I use it. It's great! #safetyfirst

Figure 10.12 Library Challenge 1b, The Golden Times (1 of 3)

http://goldentimes.com.honesttruth.com

THE GOLDEN TIMES

http://goldentimes.com   Online Edition

FINGERPRINTS AT RISK

Unlocking your phone with your fingerprint?

It might be convenient, but you may be giving away more than you think when you unlock your phone with your fingerprint. The International Crime Commission reports a spike in identity theft crimes enabled by the criminals wearing false fingertips to copy their victims.

"It may save you two seconds when you swipe with your fingertip, but can cost you years of recovery if your online identity is copied," says Thomas Smithdol, head of Forensic Impersonation for the ICC.

Smithdol recommends that people use a more complex version of biometric measures, such as facial identification, or return to using a pin code on their phones.

If they must use a fingerprint scan, Smithdol recommends people use a fake fingerprint on their left pinky. "The right index finger is the most commonly used finger for these fingerprint scans. Using a left pinky fake fingerprint from a trusted company like Mobius will ensure your data is safe."

Figure 10.13 Library Challenge 1b, The Golden Times (2 of 3)

http://goldentimes.com

THE GOLDEN TIMES

http://goldentimes.com   Online Edition

FINGERPRINTS AT RISK

Unlocking your phone with your fingerprint?

It might be convenient, but you may be giving away more than you think when you unlock your phone with your fingerprint. The International Crime Commission reports a spike in identity theft crimes enabled by the criminals wearing false fingertips to copy their victims.

"It may save you two seconds when you swipe with your fingertip, but can cost you years of recovery if your online identity is copied," says Thomas Smithdol, head of Forensic Impersonation for the ICC.

Smithdol recommends that people use a more complex version of biometric measures, such as facial identification, or return to using a pin code on their phones.

If they must use a fingerprint scan, Smithdol recommends people avoid using their index finger. "The right index finger is the most commonly used finger for these fingerprint scans. If you use the same right index finger on multiple devices, then that sets the stage for a criminal to take that information and impersonate you online."

Figure 10.14 Library Challenge 1b, The Golden Times (3 of 3)

←→↺ http://gØldentimes.com

THE GOLDEN TIMES

http://goldentimes.com   Online Edition

FINGERPRINTS AT RISK

Be Safe with Fingerprint Faker

Studies show that people who use Fingerprint Faker from Mobius are 95% less likely to be taken advantage of. Order your custom-fit Fingerprint Faker at http://mobius.uk/fingerprintfaker

Unlocking your phone with your fingerprint?

It might be convenient, but you may be giving away more than you think when you unlock your phone with your fingerprint. The International Crime Commission reports a spike in identity theft crimes enabled by the criminals wearing false fingertips to copy their victims.

"It may save you two seconds when you swipe with your fingertip, but can cost you years of recovery if your online identity is copied," says Thomas Smithdol, head of Forensic Impersonation for the ICC.

Smithdol recommends that people use a more complex version of biometric measures, such as facial identification, or return to using a pin code on their phones.

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Figure 10.16 Library Challenge 1c, chart (1 of 3)
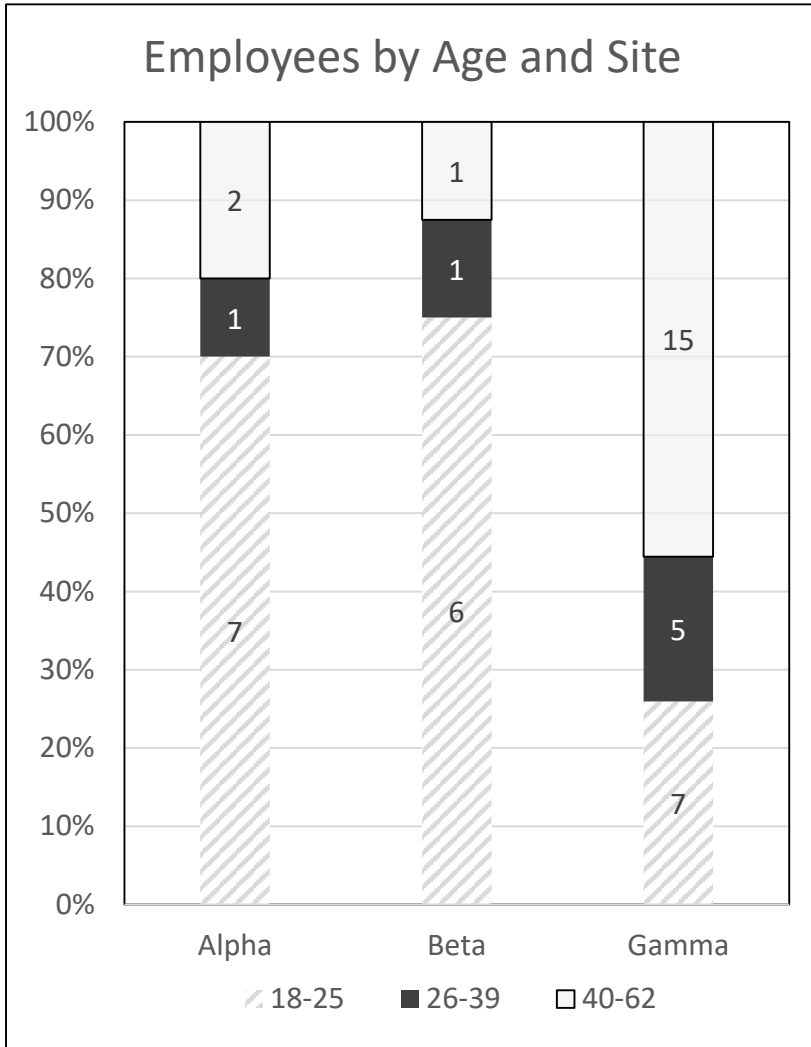
Figure 10.17 Library Challenge 1c, chart (2 of 3)

Employees by Age and Site

Legend: 18-25, 26-39, 40-62

- Alpha: 7 (18-25), 1 (26-39), 2 (40-62)
- Beta: 6 (18-25), 1 (26-39), 1 (40-62)
- Gamma: 7 (18-25), 5 (26-39), 15 (40-62)

Join Our Vibrant Youthful Workforce at the Delta site!

- 18-25: 10
- 26-39: 40
- 40-62: 35
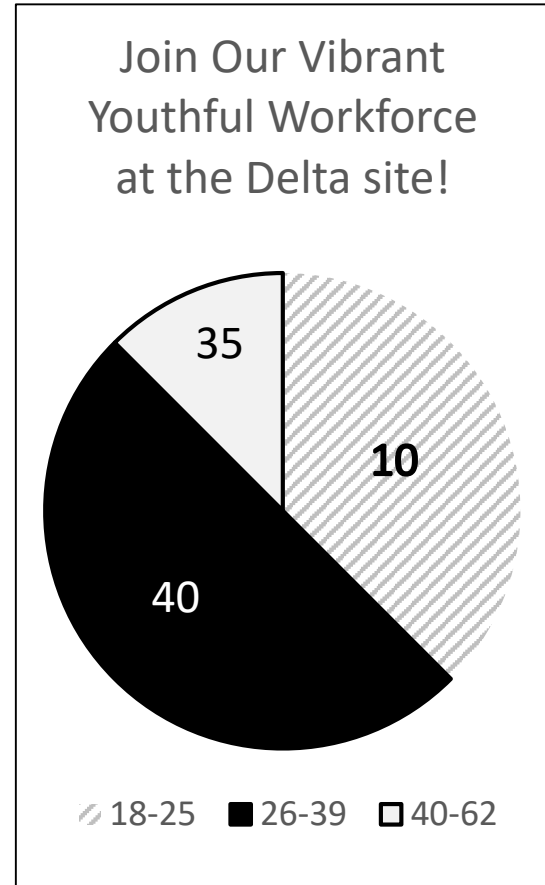
Figure 10.18 Library Challenge 1c, chart (3 of 3)

Epsilon Worksite: Young and Eager!

	18-25	26-39	40-62
	7	30	80
	6	25	
	5	20	60
	4	15	40
	3	10	
	2	5	20
	1	0	0
	0		
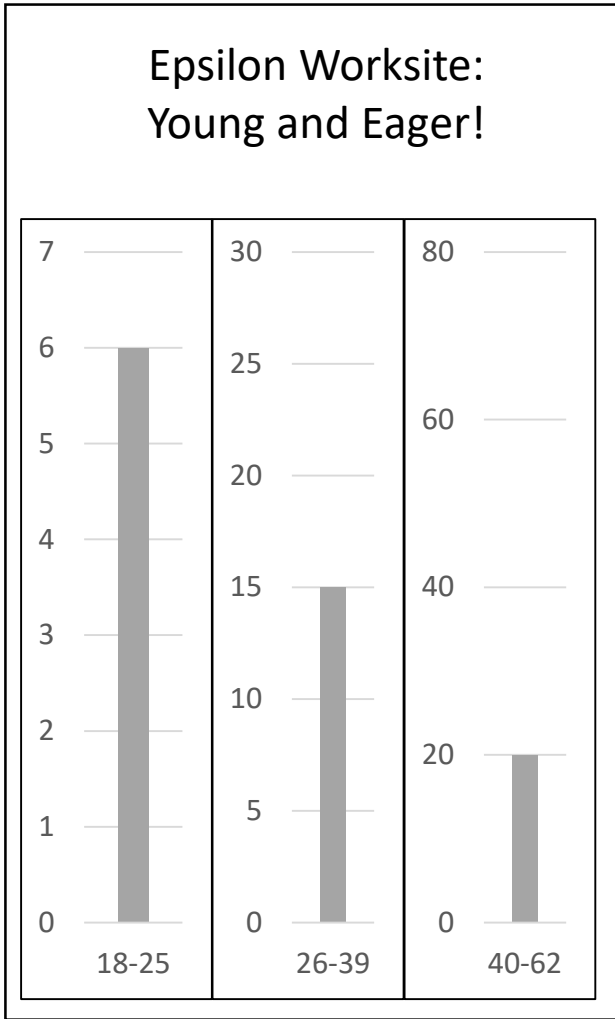
Figure 10.19 Library Challenge 1c, data entry sheet

Employee Census

	18-25	26-39	40-62
Alpha			
Beta			
Gamma			
Delta			
Epsilon			
TOTALS:			

Figure 10.20 Data Center, Hacked missive
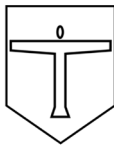
We can see you are surrounded by computers - You have found the Data Center for Mobius! Great work!

We have been monitoring an Internet forum that is actively planning a hack on the Fingerprint database at Mobius, which would give them access to hundreds of thousands of fingerprints. We can see from the main screen that the hack is in process. You need to @&#$)&@((@))8)@)_#>><?>?>#

```
WE HAVE INTERRUPTED THIS MESSAGE.   WE ARE THE ONES HACKING MOBIUS.

WE PLAN TO DELETE THEIR DATABASES ONCE WE HAVE ACCESS.
IT IS IMPERATIVE THAT YOU LOG IN TO LET US HAVE ACCESS.

DO NOT SHUT DOWN.

WE ARE TRANSMITTING IMAGES OF THE KEYPAD FOR THE AUTHENTICATOR. THEY DID NOT
COVER THEIR HAND WHEN ENTERING THEIR 4-DIGIT PIN.

THE PASSWORD IS CHANGED REGULARLY AND KEPT UNDER THE KEYBOARD.

AFTER YOU   FILL IN   THE AUTHENTICATOR AND PASSWORD ON THE COMPUTER,
CHOOSE LOG IN TO GIVE US ACCESS. DO NOT SHUT DOWN THE COMPUTER.

WE ARE WATCHING.
```

Figures 10.23, 10.24, 10.25, Data Center, Challenge 2b Phone keypad (1-3 of 7)
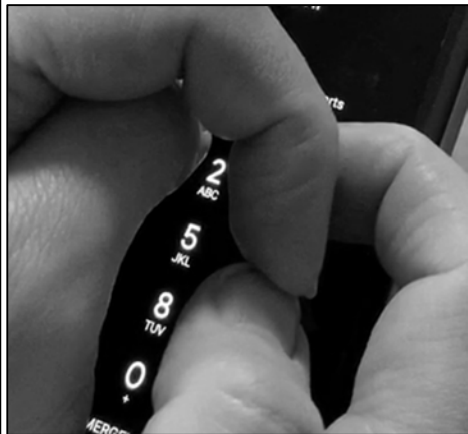
MAR28 17:42.10
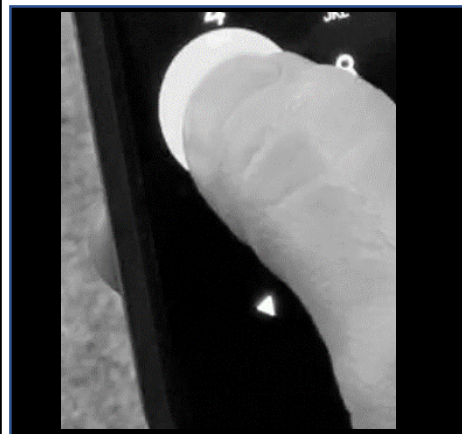
MAR28 17:42.11

MAR28 17:42.12

MAR28 08:20.49

MAR28 08:20.46

MAR28 08:20.47

MAR28 17:42.13

Authenticator

Figure 10.31, Data Center,
"When you are Correct"
label for small envelope

When you are

CORRECT

open this
envelope

Read Out Loud
Congratulations! You figure out the password and authenticator but realize you are faced with a difficult decision. You tell the guard to find the librarian and keep them from coming back, so you can take your time and make the right decision.

As you finish entering the password and authenticator code, a radio broadcast starts to play over your communication device. It is an interview between Mobius and the Hackers.

Decide who will be the Radio Host, who will play Mobius, and who will play the Hackers. Everyone else is the Audience and will ask questions. Distribute the enclosed Scripts. The Radio Host will direct the interview by following the script. Mobius and the Hackers can improvise answers based upon the information they have."

Script – Hackers

When asked about what is happening:
We are just about to complete a hack into Mobius's fingerprint database. They have collected thousands of fingerprints for their Fingerprint Faker, and that is far too much power. We have live video and a team on the inside who is about to break in to the system!

When asked about what they will do:
We will release this fingerprint database to the world! That way, anyone who wants to do research on fingerprints can do so. This will force those using fingerprints to come up with another way to validate identities, as fingerprints will become easily copied and useless. If everyone has access to fingerprints, then nobody can use them for control.

If asked about innocent people:
You can't fight an information war without casualties. In the short term, it will be inconvenient for the customers, but these are people who already have tried to cheat the system by ordering the Fingerprint Faker in the first place! It will be worth it in the end.

Script – Radio Host

To start, read out loud:
Welcome to our live radio interview with Mobius. We have learned that a group of Hackers are about to get into Mobius's systems as we speak, so we have brought the Hackers on as well.

Q: Hackers, tell us what is happening and why?
[Wait for answer.]

Q: Mobius, what are you going to do with all of those fingerprints?
[Wait for answer.]

Q: Hackers, what will you do with the fingerprint database?
[Wait for answer.]

Q: Mobius, what impact would this have on you?
[Wait for answer.]

Now let's turn this over to our studio audience. What questions do you have?
[Facilitate questions and answers. You may also ask questions.]

Well, that's all the time we have. Thank you for joining us.
[Dramatic pause, then read this in your best movie announcer voice.]

Now, it is back to our heroes. They are faced with a choice. Do they shut down the system and keep the data safe, or do they log on and allow the hackers access? They have a few moments to debate and then must make a decision.

[Find the sealed sheets labeled 'Log On' and 'Shut Down' and put them in the middle of the table.]

Script – Mobius

When asked about what Mobius will do with the fingerprints:
Our Fingerprint Faker is designed to protect people from hackers like these. We use the fingerprints for research, so that we can improve our product with a larger database of fingerprints.

When asked about what impact this would have:
We still have the fingerprint data, so it won't affect our research. All this action will do is put the identities of thousands of people at risk. If you release these fingerprints, think about the consequences it will have for our customers, and for what benefit? This will do much more harm than it will do good.

If asked about future products:
Our next product will be DNA Denier, which is similar to Fingerprint Faker, but for DNA testing. This will provide people with an artificial DNA that is similar to their own, but with some changes made, to protect them from invasive DNA testing.

Figure 10.33, Conclusion, Final Choice Message.

Assembly Instructions:
Cut on the dark lines. Fold upward using the dotted line
and seal with tape, leaving the Log In and Shut Down choices visible.

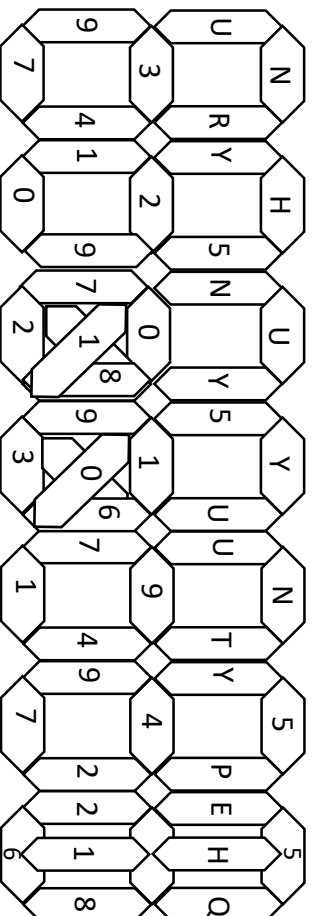| Log In	Shut Down
Once you click Log In, you get a message:	Once you click Shut Down, you get a message:
UNE The University of Northern England. You certainly aren't subtle in dealing with Mobius! Hackers are now releasing the Fingerprint database to the public.	**UNE** The University of Northern England. Well, we've heard through the message boards that you stopped the hack. Given the damage that would have done to thousands of innocent people, we feel that was the right decision.
Mobius' stock is in a tailspin, and the messages are for everyone to avoid Fingerprint Faker.	
We aren't sure what will happen now, as there are a lot of people who have just had their identifying information and fingerprints released to the world.	It's not going to stop Mobius, but the information you have gathered on how they are spreading misinformation will be valuable to us. I'm not sure
We will see. Good work on stopping Mobius!	what Mobius will do now, but we are better prepared to fight them when needed. Great work!
A reporter will be calling you for a statement shortly. You need to put together a 250-word statement that highlights what went on here, and what you think will happen next. You'll be reading it live on-air, so you'll want to write and rehearse it quickly.	A reporter will be calling you for a statement shortly. You need to put together a 250-word statement that highlights what went on here, and what you think will happen next. You'll be reading it live on-air, so you'll want to write and rehearse it quickly.
Good luck!	Good luck!

Figure 10.21, Data Center, Challenge 2a, computer screen (front)

Figure 10.22, Data Center, Challenge 2a, computer screen (back)